

X-RAY EMITTER, LIQUID-METAL ANODE FOR AN X-RAY SOURCE AND
METHOD FOR OPERATING A MAGNETOHYDRODYNAMIC PUMP FOR THE
SAME

ABSTRACT

The invention relates to a method for operating a magnetohydrodynamic pump 5 for a liquid-metal anode 1 of an X-ray source.

It is provided according to the invention that it can be operated in at least two modes, wherein the first mode is a thawing mode in which the liquid metal 2 is melted in a line 3 of the liquid-metal anode 1, the second mode is an operating mode in which the liquid metal 2 is pumped through the line 3 and X-ray beams are produced. In addition, the invention relates to a liquid-metal anode 1 for an X-ray source with a liquid metal 2 which is located in a line 3, wherein an anode module 15 is inserted into the line 3 in the region of focus 4, with a pump 5 for circulating the liquid metal 2 in the line 3 and with a cooling system 6 for the liquid metal 2. According to the invention, such a liquid-metal anode 1 has a magnetohydrodynamic pump 5 as described above.

(Figure)